

ABSTRACT OF THE DISCLOSURE

A high thermal conductive material includes substantially silicon carbide and metal silicon, and preferably is formed by impregnating the space between the bonded silicon carbide crystals with the metal silicon. The production process comprises adding an organic binder and a dispersant or a binder having a dispersing effect to a silicon carbide powder to obtain a mixture, forming the mixture by cast forming or pressure forming to obtain a formed product, treating the formed product with heat at 2,100-2,500°C for 1-5 hours to obtain a base material, impregnating the base material with an organic resin, treating the base material with heat, and impregnating the base material with metal silicon at 1,450-1,800°C under reduced pressure. The high thermal conductive material exhibits not only properties that satisfy the balance between the coefficient of thermal expansion and the coefficient of thermal conductivity required for actual electronic components (including semiconductor devices) and the like, but also high thermal conductivity.